1994

Diag. Cht. No. 369-3

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ..... Office No. 1994

LOCALITY

State New York

General locality Wallabout

Locality Bay: Navy Yard

East River

~~194~~ ~~1890~~

CHIEF OF PARTY

W D Elliot

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U. S. COAST AND GEODETIC SURVEY.

T. C. Mendenhall, Superintendent.

State: New York.

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 1994.

LOCALITY:

Wallabout Bay,
Navy Yard,
East River.

1890.

CHIEF OF PARTY:

Lieut. W. P. Elliott, U.S.N.

REPORT A - Fleming

U. S. Coast and Geodetic Survey.

T. C. Mendenhall
- Superintendent -

Hydrographic Survey
— of the —

WALLABOUT CHANNEL.

Navy Yard - East River - New York -

by the party -

U. S. C. S. Schooner **"EAGRE"**

Lieutenant Wm. P. Elliott U.S.N.
Assistant C. & G. S. - Commanding -

January 15 to February 12th 1890.

Table of Reference

Wallabout Channel & East River N.Y.

Date	Letter	Positions Located	Angles Observed	Soundings	Miles	Boat.	Observers.
January 15	a	43	83	260		Main Boat	W.P.C. A.R.H. E.A.A.
" 17	b	69	138	380		"	W.P.C. E.A.A. A.R.H.
" 18	c	24	46	171		"	W.P.C. E.A.A. A.R.H.
" 21	d	38	54	251		"	E.A.A. W.P.C.
" 30	e	24	48	153		"	W.P.C. A.R.H. W.P.C.
February 1	f	10	15	107		"	W.P.C. A.R.H. W.P.C.
January 18	a	58	113	440		Steam Launch	W.P.C. E.A.A. A.R.H.
" 19	b	77	127	431		"	W.P.C. E.A.A. A.R.H.
" 25	c	53	94	345		"	W.P.C. W.P.C.
February 7	d	20	40	109		"	W.P.C. W.P.C.
		416	758	2647			

14.

U.S.C.S.S. "Eagre" Navy Yard Newyork February 12. 1890

Prof T.C. Mendenhall,
Superintendent U.S.C. & G. Survey

Dir:-

I have the honor to submit the following Report of the Survey of Hallabout Channel East River Newyork, made in accordance with your Instructions dated January 11th 1890, and Detailed Instructions from the Hydrographic Inspector dated January 13. 1890.-

A tide gauge was at once set up and continuous tidal observations begun. From the meagreness of tidal data available, it was deemed advisable to re-determine the plane of mean low-water, referring it however to the same bench mark, a square cut in the stone pavement near the head of the stone-dry dock. - This complete lunation of tides ends to-day, so that it has been impossible to send the completed projections and records to the office before this time.

Ensign C. T. Anderson, U.S.N. was ordered by you to assist me, and reported

for duty on the 13th January. He returned to his Station in Washington January 23rd as the lines of soundings were nearly all run, This Officer justified his reputation for zeal and ability. - Draughtsman A. R. Hasson, and Recorder W. S. Crosby, - who serve as Pay Yeomen in this party rendered efficient service as observers and recorders. -

In order to insure accuracy in a work of this character, it is necessary that lines should be run nearly parallel to each other, and at nearly equal distances from each other. - This would have been impossible in the narrow Channels, if the ordinary methods were practiced. I located on the sea-walls and dock-walls of the Navy Yard the ends of each line, and having two observers on shore, the leadsman in the bow of the boat was located twice on each short line by simultaneous cross cuts at the dropping of a signal flag in the boat. - The first lines run were begun at Station "One"

on the N.W. corner of the Cof Dock and continue around through the Navy Yard Channel to the NE corner - at the Ordnance Dock. - From line 1 to 23, alternate lines have been run, which are designated 1a 2a etc, but which have not been plotted on the projection. - They can be put in on a larger scale sheet for the use of the Naval Authorities if deemed necessary to estimate for dredging &c. All lines were run on artificial ranges accurately set up in front of the boat's course. -

The lines outside the Cof Dock & Ordnance Dock, were generally run with one observer in the bow of the boat, who at the instant of the angle had a signal flag dropped, and was cut in from a point on shore as near as possible normal to the Course of the boat. - It was possible in all but a few of the outside lines to keep on the ranges very closely. -

I include herewith a plan of the Cof Dock, sea walls &c copied by my draughtsman from the Official Yard Plan, -

It is a plane on the scale of 1/200, and of no great accuracy, if judged by the methods of this Office. The lines have been transferred to it with as much accuracy as possible, and if sufficiently so, when the soundings are put in, it will be of more use to the Yard authorities than a spheroidal projection of the scale of 1/500. The soundings can be at once put on all their drawings, which are on this scale. 1 inch = 100 feet.

The development of the shoal outside of the R. S. "Vermont" at the Western entrance to the Wallabout Channel, has been carefully made, and in addition to the lines plotted, many soundings were taken about the shoalest spot found. - Nothing less than 17 feet was found by Lieut Rice in February 1889, and there now appears a spot of 14.3 - 14.9 feet. - This spot is evidently shoaling, and the shape of the shoal has changed a little - it being a little longer to the Northward.

It is impossible to compare this survey of the Navy Yard Channel with any preceding one, for indiscriminate and unsystematic dredging has been done in past years. - It is proper to say that the Western entrance - on the prolongation of the front of the Cob Dock to Wharves opposite, is over a fathom shoaler than it was a year ago, Indeed the present policy of the Commandant is from this survey to formulate a systematic scheme of dredging.

Tides. - No attempt has been made to determine the strength or duration of tidal currents, These in the Navy Yard Channel, run in the opposite direction to the main current in the East River, and on the front of Cob & Ordnance Docks these are varying currents and eddies. The plane of reference as determined during this survey is .2 foot higher than as given in tidal data furnished me. -

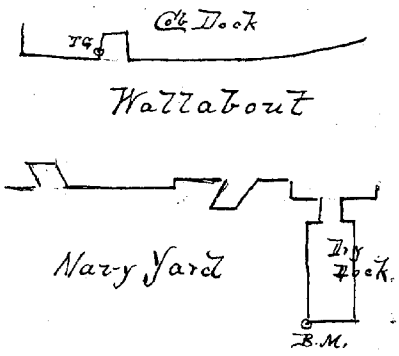
6 A,

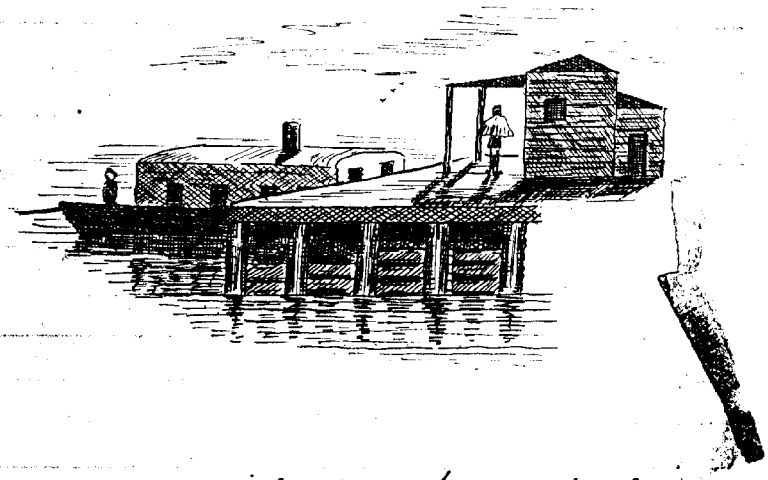
This may perhaps be due to strong winds during the month, In one or two cases the water has been noticeably banked up, and at the time of a recent storm, a low tide has been cut down 2 feet - it was so greatly abnormal, a sketch of gauge with tidal data is appended.-

Very respectfully,
Wm. F. Elliott
Lieut U.S.N. Comdg. Asst. C.&G.S.

Forwarded
Chas. M. Thomas Lt. Comd'r., U. S. N.,
Hydrographic Inspector C. & G. Survey.

Tide Gauge, Wallabout Channel
U.S. Navy Yard, New York





The tide gauge is nailed to a pile on the N.W. side of the slip in the Cob Dock near the scow landing. The gauge is about 12 meters from the outer corner of the slip.

The B.M. is a square cut in the upper surface of the stone coping of the dry dock.

Height of B.M. above zero of gauge		12.045 ft
" " " " " m.l.w.		9.15
Plane of m.l.w. on gauge	2.9	2.9
Mean range	4.2	4.2
Highest tide observed	8.9	8.9
Lowest tide observed	0.1	0.1

Observations begun Noon Jan 14
" ended Midnight Feb 12
57 high waters 57 low waters